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SOCIAL SECURITY ACTS 1975 TO 1980

CLAIM FOR INDUSTRIAL DEATH BENEFIT

DECISION OF THE SOCIAL SECURITY COMMISSIONER

[ORAL HEARING]

C.S.I.3/81

1. My decision is:-

- (a) that the decision of the local tribunal dated 8 April 1964 disallowing industrial death benefit to the claimant in respect of the death of her husband, the late Alexander Gillen, (hereinafter referred to as "the deceased") may be reviewed; and
- (b) that the said decision of the local tribunal dated 8 April 1964 may be revised so as to make industrial death benefit payable to the claimant on the grounds that the death of the deceased resulted from prescribed disease No. 25.

2. There has been a considerable delay in regard to the disposal of this appeal, but I think it is only right to mention that, so far as I can see, that was not due to any fault on the part of the Office of the Social Security Commissioners.

3. A request for an oral hearing was made by the trade union of the deceased, the Transport and General Workers Union (hereinafter referred to as "the Union"), and that request was granted. At the hearing before me the claimant was represented by Mr. R.G. McEwan, Advocate, and the insurance officer now concerned with the case was represented by Mr. J.P. Canlin from the Solicitors Office of the Department of Health and Social Security. I am obliged to these two gentlemen for the able and efficient manner in which they presented their cases at the hearing.

4. The deceased died on 22 March 1962 and the cause of his death was acute myeloblastic leukaemia. The claimant claimed industrial death benefit maintaining that the death of the deceased had resulted from prescribed disease No. 25 which he had contracted as a result of his employment by the U.K. Atomic Energy Authority at the Dounreay Experimental Reactor Establishment in the north of Scotland from 21 April 1958 to 17 September 1961 and from 9 to 15 October 1961. Under

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the relevant (Industrial Injuries)(Prescribed Diseases) Regulations prescribed disease No. 25 is described as "Inflammation, ulceration or malignant disease of the skin or subcutaneous tissues or of the bones, or blood dyscrasia, or cataract, due to electro-magnetic radiations (other than radiant heat), or to ionising particles". It was not disputed that the deceased's death from leukaemia fell within the definition of blood dyscrasia, and it was accepted that during his said periods of employment he had been exposed in some degree to electro-magnetic radiations other than radiant heat or to ionising particles.

5. A local insurance officer decided on 7 August 1962 that industrial death benefit was not payable to the claimant on the ground that the deceased's death did not result from prescribed disease No. 25. The claimant appealed against that decision, but on 8 April 1964 the majority of a local tribunal disallowed the appeal. Thereafter the Union brought an appeal to a Commissioner. The appeal, however, was not made within the prescribed statutory period, and on 3 November 1975 a Commissioner decided that the necessary extension of time in which to appeal from the said decision of the local tribunal dated 8 April 1964 was refused.

6. In a letter dated 6 March 1978 the Union applied for a review of the said local tribunal's decision dated 8 April 1964 founding on the provisions of section 104 of the Social Security Act 1975. On 17 April 1978 a local insurance officer refused to review the said decision of the local tribunal dated 8 April 1964. The Union appealed against that decision, and on 1 August 1978 a local tribunal unanimously allowed the appeal. The tribunal decided that the former decision of a local tribunal should be reviewed, and that on revisal of that decision industrial death benefit was payable to the claimant. Thereafter the insurance officer now concerned with the case brought the present appeal to the Commissioner.

7. A preliminary hearing took place before me at which I hoped that after debate I could decide whether or not the above-mentioned decision of the local tribunal could be reviewed without any evidence on the merits being led. That, however, proved to be impossible, and a later hearing was arranged at which evidence regarding all the questions at issue was adduced on behalf of the insurance officer now concerned with the case and on behalf of the claimant.

8. The first question which arises is whether the said decision of the local tribunal dated 8 April 1964 can be reviewed because of the provisions of section 104(1)(a) and (b) which are in the following terms:-

"104:-(1) Any decision under this Act of an insurance officer, or a local tribunal or a Commissioner may be reviewed at any time by an insurance officer or, on a reference from an insurance officer, by a local tribunal, if -

(a) the officer or tribunal is satisfied and, in the case of a decision of a Commissioner, is satisfied by fresh evidence, that the decision was given in ignorance of, or was based on a mistake as to, some material fact; or

/ (b)

(b) there has been any relevant change of circumstances since the decision was given; or

(c)

I am here dealing with the decision of a local tribunal, and therefore no question of "fresh evidence" arises.

9. At this stage I must give a short description of the work carried out by the deceased during his employment at the said Dounreay Experimental Reactor Establishment. A substantial amount of his time was taken up by being a crane driver in the reactor hall or in the active handling bay. When not required to work as a crane operator the deceased was employed on general duties. The crane operated by the deceased in the reactor hall was situated at the side of the hall and could move round the reactor hall on a rail. The cabin of the crane was about 30 feet above the floor of the hall. One of the deceased's duties when engaged as a crane driver was concerned with the replacement of fuel elements in the reactor. This involved moving a spent fuel element in a heavy flask weighing several tons. During this operation smallish plugs were removed from holes on the floor for about 5 minutes or so, and when these plugs were removed radiation came through these holes. Thereafter the crane driver brought back the flask containing a new fuel element to the reactor. There were 6 fuel elements which were changed about every 14 to 20 days. The deceased had to wear on the left side of his chest standard radiation monitoring films in a holder which covered part of the film with a metal filter to distinguish between penetrating and soft radiation. The radiation exposure indicated by the results of the examination of each film totalled over the period of his employment was 2.68 rads in air as to the covered part of the film and an additional .27 rads in air as to the uncovered part. In other words, according to the said monitoring films the amount of radiation to which the deceased was exposed during the periods of his employment amounted to about 2.95 rads.

10. The local tribunal, who gave their decision in regard to the claimant's claim in the present case on 8 April 1964, were not given a very clear explanation regarding the duties performed by the deceased when he was employed as a crane driver. So far as I can see, the information before the said local tribunal was to the effect that the deceased's exposure to radiation during the periods of his employment amounted to, as explained above, 2.95 rads, and that that amount of exposure was well within the accepted safety limit of exposure to radiation. Also all the items of medical evidence before the tribunal were to the effect that the deceased's death from leukaemia could not be regarded as due to exposure to radiation during the course of his said employment.

11. The later tribunal who gave a decision on 1 August 1978 regarding the claimant's application for a review of the previous tribunal's decision and her claim for industrial death benefit explained that the reasons for their review of the former tribunal's decision included the fact that the former tribunal had been unaware that the deceased during the employment as a crane driver may have been subjected to

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radiation which had not been recorded on the monitoring film on his chest. The tribunal further considered that continuing researches had tended to suggest that the former accepted safe levels of 5 rems or rads were too high and that on a balance of probabilities leukaemia of the type from which the deceased had died could have been caused by radiation to which he was exposed during his said employment.

12. There was a body of evidence before the second local tribunal, and which is now before me, to the effect that when the deceased was moving the above-mentioned fuel elements, as before described, there was at least a possibility that he was exposed to radiation from beneath the cab of the crane on which he was working or from the side of the said cab which would not be recorded on the monitoring badge which was on his chest. The insurance officer's representative at the hearing before me maintained that it had not been proved that the deceased had been exposed to radiation which was not recorded on his badge, and that in those circumstances there was no justification for a review under section 104(1)(a) i.e. that the decision of the original local tribunal had been given in ignorance of a material fact. In my view, however, the fact that the original local tribunal were unaware that while the deceased was moving the said fuel elements in his employment as a crane driver this may have exposed him to radiation which was not recorded in his chest monitoring badge means that their decision falls to be regarded as having been given in ignorance of a material fact. It seems to me that whether or not the original local tribunal would have accepted any evidence to the effect that there was a real possibility that the deceased had been exposed to a greater amount of radiation than was registered on his said badge, the position is that the said tribunal did not have before them this material item of evidence. In all the circumstances I have reached the conclusion that the decision of the original tribunal may be reviewed.

13. I should mention one other matter in connection with the review question since it was raised at the hearing before me. It is clear that the mere production of another medical opinion does not warrant review of an earlier decision. Furthermore, an advance in medical knowledge doubtless does not warrant a review. The position in the present case, however, is rather special. At the time the original local tribunal gave its decision the accepted view in the medical profession seems to have been that exposure to radiation up to 5 rads or rems was safe. There now seems to be a substantial body of opinion to the effect that the said 5 rems or rads limit is no longer acceptable; that there is really no safety limit so far as exposure to radiation is concerned; and that any safety limit, if there is one, may vary from individual to individual. There seems to me to be quite a cogent argument to the effect that the decision of the original local tribunal can be reviewed on the basis that the decision was based on a mistake as to some material fact or perhaps even on the basis that there has been a relevant change of circumstances since that decision was given. This raises a difficult question, and, having already decided that the said decision can be reviewed for the reasons set forth above, it is unnecessary for me to give my final view on the matter raised in this paragraph.

14. Having decided that the original decision by a local tribunal can be reviewed the question arises regarding whether it has been established by the claimant that on a balance of probabilities the deceased should be regarded as having died through prescribed disease No. 25. That issue depends largely on the available medical evidence. The main items of medical evidence which were before the original local tribunal were as follows:-

- (a) A report by a medical board dated 9 January 1963 contained the following:-

"This man [the deceased] undoubtedly suffered from acute myeloid leukaemia which comes under the heading of Prescribed Disease No. 25.

From our knowledge of this disease and the most recent opinions of its aetiology, and taking into account the consultants reports submitted to us, we are of the opinion that the probability is that the disease in this case was not either caused by or

aggravated by the nature of his employment."

- (b) The decision of a medical appeal tribunal dated 27 February 1963 was as follows:-

"The deceased did not suffer from leukaemia before working at the Downreay Reactor Establishment and leukaemia was certified as cause of death. We are, however, satisfied that deceased was not subjected to conditions likely to cause leukaemia. We accept that he had no close contact with radioactive material and was not exposed to more than a small fraction of the radiation which is regarded as potentially dangerous. Numbers of persons contract leukaemia without subjection to exposure to undue radioactivity"

- (c) In a letter dated 2 June 1962 to the Principal Medical Officer of the Ministry of Pensions and National Insurance the then Nuffield Professor of Clinical Medicine (Professor L.J. Witts) at the Nuffield Department of Clinical Medicine, The Radcliffe Infirmary, Oxford, stated as follows:-

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"Thank you for your letter of May 31, 1962, and the attached copy of the letter from D.F. Sim dated May 2, 1962. There is nothing in the description of his work to suggest that this man [the deceased] had any close contact with radioactive material during his employment at Dounreay and the readings from his monitoring films indicate that he had less than one-fifth of the maximum permissible exposure to ionising radiations during this period. It should also be noted that the first symptoms of Mr. Gillen's illness appeared three years after his beginning work at Dounreay and this would represent an unusually short incubation period for leukaemia attributable to ionising radiations.

On these grounds I have formed the opinion that there is no evidence that Mr. Gillen's death from acute myeloid leukaemia was due to ionising radiation encountered at his work".

15. Since the decision of the local tribunal dated 8 April 1964 the main items of additional medical evidence are as follows:-

(a) In a report dated 4 January 1977 given by Professor J.T. Aitken of the Department of Anatomy & Embryology, University College London, after meeting the claimant's then solicitor and other persons it was stated as follows:-

"3. In a susceptible person (one just about to show the detectable biological and chemical changes of precancer) a very small dose of radiation might be sufficient to accelerate or even to initiate the changes.

6. Though the Authority appears to have taken all reasonable practicable steps to protect personnel in the reactor area, there remains the unhappy possibility that the late Mr. Gillen was the exception.

7. Medical authorities (vide Sir Ronald Bodley Scott in Price's standard "Textbook of Practice of Medicine") still seem to be uncertain as to whether there is a lower threshold below which irradiation is harmless.

8. In view of the above uncertainties and doubts, I feel there is still the possibility that the late Mr. Gillen's illness was caused by the irradiation.

(b) In a statement of evidence dated 24 August 1978 by the Principal Medical Officer of the Department of Health and Social Security it was stated as follows:-

"After careful consideration of the evidence now available which was not made available to the M.A.T. [Medical Appeal Tribunal] in 1960 [correct date 1963] I do not consider it probable that the additional evidence, if it is accepted as fresh evidence, would have lead the MAT to a different decision regarding diagnosis. Furthermore if the findings of the Local Tribunal on 1 August 1978 on questions of fact material to its decision are accepted as fact by the learned Commissioner after considering the further statement from the Health and Safety Division DNPDE Thurso it is in my opinion no more than a possibility that the additional amount of radiation to which the deceased was exposed contributed materially to the cause of his death".

(c) In the course of a letter dated 23 October 1979 written by another medical expert (Dame Janet Vaughan) it is stated as follows:-

"In view of the fact that there is an accepted risk factor for leukaemia induction by radiation of 20×10^{-6} rem (ICRP 1977), it is impossible to say that leukaemia in the case of Mr. Gillen was not radiation induced, though in his case the recorded radiation dose received of 2.95 rads was extremely low and the period between exposure and diagnosis i.e. the latent period was unusually short".

(d) The remaining item of medical evidence was supplied by Dr. Alice Mary Stewart. I shall deal with her evidence in the next paragraph.

16. Dr. A.M. Stewart who has made a particular study of the effects of radiation in regard to the onset of cancer, is employed at the Regional Cancer Registry, Queen Elizabeth Medical Centre, Birmingham. She was formerly employed as an assistant to the above-mentioned Professor Witts. Along with other medical personnel she has produced

a report regarding the cancer risk from radiation to workers at Hanford (a nuclear establishment in the U.S.A.) (1944 to 1977 deaths). The work carried out at Hanford, U.S.A., is apparently similar to the work carried out at Dounreay. Criticisms have been expressed regarding the views put forward by Dr. Stewart in regard to the cancer risks from radiation, but it seems to be clear that she must be regarded as one of the experts in this field of medicine. She was adduced as a witness by those appearing for the claimant at the hearing before me, and she was indeed the only medical witness at that hearing. Prior to giving her evidence at the said hearing she had expressed various written views regarding the present case. In a letter to the solicitors for the Union dated 26 June 1979 she stated in the course of that letter the following:-

"There is general agreement among scientists that there is no safe dose of radiation, but estimates of the amount of radiation required to double the normal risk of developing myeloid leukaemia range from 200 rads (the estimate for A-bomb survivors) to less than 15 rads (the estimate for Hanford workers, see enclosures A and B).

There is also general agreement among scientists that escape of gamma or penetrating radiation from storage blocks occurs whenever the plugs are removed (e.g. during placement of fuel elements in the blocks).

Film badges provide direct measurements of atmospheric doses of penetrating radiation but I agree with Dr. Aitken that it would be difficult to detect the vertical irradiation which is claimed for crane drivers whose cabs are periodically positioned over open storage tanks.

It is also unusual for adults to die from acute myeloid leukaemia before 45 years of age. Thus in 1973 the total number of male deaths from acute myeloid leukaemia was 573 and only 48 or 8% of these deaths affected men between 35 and 45 years of age (the total number of men in this age range was 2,877,600).

Therefore, several facts combine to make me think that, on the balance of probabilities, Mr. Gillen's death from acute myeloblastic leukaemia was a direct result of his occupational exposures to ionizing radiation".

(a) In a later report dated 9 October 1979 Dr. Stewart stated as follows:-

"In spite of it being Dr. Burton's opinion that Mr. Gillen's employment at Dounreay was probably coincidental, it is my opinion that the disease which caused Mr. Gillen's death in March 1962 might have been caused by his occupational exposure to radiation.

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By all accounts, replacement of fuel elements into storage blocks is tricky work, and is compatible with the crane operator receiving far more radiation than is recorded on his film badge. I find particularly convincing the suggestion that the metal rail of the driver's cab might be the cause of repeated non-recording of relatively high doses of radiation.

Though I agree that leukaemia is not a rare disorder, nevertheless, it is a rare cause of death before 45 years of age. Furthermore, acute myeloid leukaemia is an exception to the rule that intervals between the start of a cancer (initiation) and diagnosis are measured in decades rather than years. Therefore, although there was only an interval of three years and five months between Mr. Gillen starting work as a process operator in a Material Testing Reactor and developing leukaemia, this does not rule out an occupational origin for the fatal disease. Also note that, in spite of intensive treatment, the interval between diagnosis and death was less than six months".

- (b) At the hearing before me Dr. Stewart gave evidence at some length, and she repeated and amplified the views which she expressed in the above-mentioned reports. She expressed the view that the safe level of radiation had steadily fallen in recent times, and she pointed out that the above-mentioned Hanford report was the only continuous survey of radiation workers which had been carried out since 1944. She pointed out that the deceased had been 44 years of age at the time of his death; that it was uncommon to have the disease from which he died at that time; that the said disease was more common with regard to children and older persons. She, as above stated, was formerly an assistant to Professor Witts. She stated that she doubted if Professor Witts would now agree with the views which he expressed in 1962. Dr. Stewart agreed that there was an unusually short incubation period in the deceased's case for the incidence of leukaemia attributable to the effects of radiation. She expressed the view, however, that it was in her opinion more probable than

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not that the deceased died from the effects of radiation to which he was exposed during his employment at Dounreay. In other words her opinion was that the deceased had died as a result of prescribed disease No. 25.

17. There is conflicting medical evidence before me regarding the question at issue. Finally, however, after reviewing all the evidence before me I have decided to accept the view of the above-mentioned Dr. Stewart that on a balance of probabilities the deceased's death resulted from the effects of the radiation to which he was exposed at the said Dounreay establishment. I have therefore decided that the deceased falls to be regarded as having died as a result of prescribed disease No. 25, and in those circumstances I have reached the decision set forth in paragraph 1 above.

18. The appeal by the insurance officer now concerned with the case is disallowed.

(signed) Douglas Reith
Commissioner
Date: 1 May 1981

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